

## **FOOD RESOURCES**

Food is an essential requirement for survival of life. Main components are carbohydrates, fats, proteins, minerals and vitamins.

### **TYPES OF FOOD SUPPLY**

- 1. Crop plants:** Grains mostly constitute about 76% of the world's food. Ex: Rice, Wheat and Maize
- 2. Range lands:** Produces 17% of world's food from trees and grazing animals. Ex: Fruits, milk and meat
- 3. Ocean:** Fisheries – 7% of world's food Environmental Science 25 AITT & H&S

### **WORLD FOOD PROBLEM**

1. In the earth's surface, 79% is water out of total area. 21% land (forest, desert, mountain and barren land). Less % cultivated land, at the same time population explosion is high therefore world food problem arises.
2. Environmental degradation like soil erosion, water logging, water pollution, salinity affects agricultural land.
3. Urbanization affects agricultural land. Hence production of rice, wheat, corn and other vegetable is difficult.

### **TYPES OF NUTRITION**

**1. Nutritious nutrition:** To maintain good health and disease resistance, we need large amount of carbohydrate, proteins, fats and smaller amount of micronutrients such as vitamins and minerals such as Fe, Ca and iodine. Food and agricultural organization (FAO) of United Nations estimated that on an average, the minimum calorie intake on a global state is 2500 calories/day.

**2. Under nutrition:** People who cannot buy enough food to meet their basic energy needs suffer from under nutrition. They receive less than 90% of this minimum dietary calorie. Effect of under nutrition: Suffer from mental retardation and infectious diseases.

**3. Mal nutrition:** Besides minimum calorie intake we also need proteins, minerals, vitamins, iron and iodine. Deficiency leads to malnutrition resulting in several diseases.

Effect of mal nutrition: S.No Deficiency of nutrients Effects  
1 Protein Growth  
2 Iron Anemia  
3 Iodine Goiter  
4 Vitamin – A Blindness

India 3rd largest producer of crops, nearly 300 million Indians are still under nourished. World food summit 1996: The world food summit, 1996 has set the goal to reduce the number of under nourished and mal nourished people to just half by 2015.

## **OVER GRAZING**

It is a process of eating the forest vegetation without giving a chance to regenerate.

### **EFFECTS OF OVER GRAZING**

#### **1. Land degradation**

- Over grazing removing the cover of vegetation
- Exposed soil gets compacted
- Soil moisture reduces.
- Desertification - OG leads to poor, dry and compacted soil.
- Land cannot be used for further cultivation.

#### **2. Soil erosion:**

When the grasses are removed the soil becomes loose and gets eroded by the action of wind and rain fall.

#### **3. Loss of useful species:**

OG affects the plant population and their regenerating capacity. OG replace the plant of high nutritive value with plant of low nutritive value.

## **AGRICULTURE**

Agriculture is an art, science and industry of managing the growth of plants animals for human use. It includes cultivation of the soil, growing and harvesting crops, breeding and raising livestock, dairying and forestry.

### **TYPES OF AGRICULTURE**

1. Traditional agriculture
2. Modern (or) industrialised agriculture

#### **1. Traditional agriculture**

Small plot, simple tools, surface water, organic fertilizer and a mixture of crops constitute traditional agriculture. They produce enough food to feed their family and to sell it for their income.

#### **2. Modern agriculture**

Hybrid seeds of single crop variety, high tech equipments, lot of fertilisers, pesticides and water to produce large amount of single crops.

### **EFFECTS OF MODERN AGRICULTURE**

#### **1. Problems in using fertilizers**

**a. Excess of fertilizers causes micronutrient imbalance.** (e.g) Punjab and Haryana deficiency of nutrient zinc in the soil affect the productivity of the soil.

**b. Blue baby syndrome (nitrate pollution):** Nitrate present in the fertilizer causes blue baby syndrome, when the amount exceeds the limit leads to death.

**c. Eutrophication:** Nitrogen and phosphorus in the crop fields washed out by runoff water in the water bodies, which increases the nourishment of the lakes called eutrophication. Hence algal species increases rapidly. Life time of the species is less and they decompose easily and pollute the water which affects the aquatic life.

## **2. Problems in using pesticides**

1. Death of non-target organism.
2. Producing new pest – super pest
3. Bio magnification – Most of the pesticides are non-bio degradable, keep on concentrating in the food chain and it is harmful to human beings.
4. Risk of cancer:
  - a. It directly acts as carcinogen
  - b. It indirectly supports immune system.

**3. Water logging:** Land where water stand for most of the year.

### **Causes of water logging:**

1. Excessive water supply
2. Heavy rain
3. Poor drainage

### **Remedy:**

1. Preventing excessive irrigation
2. Subsurface drainage technology
3. Bio drainage like trees like Eucalyptus

## **CASE STUDY- PESTICIDES IN INDIA**

In Delhi the accumulation of pesticide in the body of mother causes premature delivery and low birth weight infant.

**Pesticides in Pepsi and Coca Cola** India has reported that Pepsi and coca cola companies are selling soft drinks with pesticide content 30-40 times higher than EU limits. This damages the nervous system.